AMENDMENTS TO THE CLAIMS

The text of all pending claims, including withdrawn claims, is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (CANCELLED), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 1-7 and 36 without prejudice or disclaimer.

1-7. (CANCELLED)

8. (ORIGINAL) A laser power control device for use in an optical recording and/or reproducing apparatus that records data on and/or reproduces data from an optical recording medium by using a laser diode, the device comprising:

a photodiode which receives light radiated from the laser diode and outputs a current;

a current-to-voltage converter which converts the current into a voltage and outputs the voltage;

a peak-holder which peak-holds the voltage and outputs the peak-held voltage when pits are formed on the optical recording medium, and outputs the voltage without peak-holding when a space between pits of the optical recording medium is formed;

a first sampler-and-holder which samples and holds an output of the peak-holder, and outputs a voltage corresponding to peak power;

a second sampler-and-holder which samples and holds an output of the peak-holder, and outputs a voltage corresponding to elimination power;

a peak current setter which sets a peak current that flows into the laser diode;

an elimination current setter which sets an elimination current that flows into the laser diode;

a bias current setter which sets a bias current that flows into the laser diode; and

a calculator which calculates setting values of the peak current, the elimination current, and the bias current, based on the voltage corresponding to the peak power and the voltage corresponding to the elimination power.

9. (ORIGINAL) The device of claim 8, wherein the current-to-voltage converter includes a monitoring circuit.

10. (ORIGINAL) The device of claim 8, wherein the peak-holder includes a peak-hold circuit.

11. (ORIGINAL) The device of claim 8, wherein the first sampler-and-holder includes a sample-and-hold circuit.

12. (ORIGINAL) The device of claim 8, wherein the second sampler-and-holder includes a sample-and-hold circuit.

13. (ORIGINAL) The device of claim 8, wherein the calculator includes a calculation circuit.

14. (ORIGINAL) The device of claim 13, wherein two A/D conversion circuits respectively convert the outputs of the first sampler-and-holder and the second sampler-and-holder into digital outputs which are input into the calculator.

15. (ORIGINAL) The device of claim 8, wherein the bias current setter includes a D/A conversion circuit.

16. (ORIGINAL) The device of claim 8, wherein the elimination current setter includes a D/A conversion circuit.

17. (ORIGINAL) The device of claim 8, wherein the peak current setter includes a D/A conversion circuit.

18. (ORIGINAL) A laser power control device for use in an optical recording and/or reproducing apparatus that records data on and/or reproduces data from an optical recording medium by using a laser diode, the device comprising:

a photodiode which receives light radiated from the laser diode and outputs a current;

a current-to-voltage converter which converts the current into a voltage and outputs the voltage;

a peak-holder which peak-holds the voltage and outputs the peak-held voltage when pits are formed, and outputs the voltage without peak-holding when a space between pits of the

optical recording medium is formed;

a first sampler-and-holder means which samples and holds the output of the peak-holder, and outputs a voltage corresponding to a peak power;

a second sampler-and-holder which samples and holds the output of the peak-holder, and outputs a voltage corresponding to an elimination power;

a peak power reference voltage setter which sets a peak power reference voltage;

an elimination power reference voltage setter which sets an elimination power reference voltage;

a first error amplifier which compares the output voltage of the first sampler-and-holder with the peak power reference voltage, amplifies an error thereof, and drives a current source used by the laser diode to generate peak power;

a second error amplifier which compares the output voltage of the second sampler-and-holder with the elimination power reference voltage, amplifies an error thereof, and drives a current source used by the laser diode to generate elimination power; and

a calculator which outputs a setting value that controls a current source used by the laser diode to generate bias power, based on outputs of the first error amplifier and the second error amplifier.

19. (ORIGINAL) The device of claim 18, wherein the current-to-voltage converter includes a monitoring circuit.

20. (ORIGINAL) The device of claim 18, wherein the peak-holder includes a peak-hold circuit.

21. (ORIGINAL) The device of claim 18, wherein the first sampler-and-holder includes a sample-and-hold circuit.

22. (ORIGINAL) The device of claim 18, wherein the second sampler-and-holder includes a sample-and-hold circuit.

23. (ORIGINAL) The device of claim 18, wherein the calculator includes a calculation circuit.

24. (ORIGINAL) The device of claim 18, wherein the peak power reference voltage

setter includes a D/A conversion circuit.

25. (ORIGINAL) The device of claim 18, wherein the elimination power reference voltage setter includes a D/A conversion circuit.

26. (ORIGINAL) A laser power control device usable in an optical recording and/or reproducing apparatus that records data onto an optical recording medium by using a laser diode that operates according to a single pulse method or a pulse train method, based on type of the optical recording medium, the device comprising:

a photodiode which receives a light radiated from the laser diode and outputs a current;

a current-to-voltage converter which converts the current into a voltage and outputs the voltage;

a peak-holder which peak-holds the voltage when pits are formed and outputs the peak-held voltage, and outputs the output voltage when a space between pits of the optical recording medium is formed;

an output selector which selectively outputs one of an output of the current-to-voltage conversion means and an output processed by the peak-holder, based on the type of the optical recording medium;

a first sampler-and-holder which samples and holds the output of the output selector, and outputs a first voltage;

a second sampler-and-holder which samples and holds the output of the output selector, and outputs a second voltage;

a first current setter which sets a first current that flows into the laser diode;

a second current setter which sets a second current that flows into the laser diode;

a third current setter which sets a third current that flows into the laser diode; and

a calculator which calculates setting values of the first current, the second current, and the third current, based on the first voltage and the second voltage.

27. (ORIGINAL) The device of claim 26, wherein the current-to-voltage converter includes a monitoring circuit.

28. (ORIGINAL) The device of claim 26, wherein the peak-holder includes a peak-hold circuit.

29. (ORIGINAL) The device of claim 26, wherein the first sampler-and-holder includes a sample-and-hold circuit.

30. (ORIGINAL) The device of claim 26, wherein the second sampler-and-holder includes a sample-and-hold circuit.

31. (ORIGINAL) The device of claim 26, wherein the calculator includes a calculation circuit

32. (ORIGINAL) The device of claim 31, wherein two A/D conversion circuits respectively convert the outputs of the first sampler-and-holder and the second sampler-and-holder into digital outputs which are input into the calculator.

33. (ORIGINAL) The device of claim 26, wherein the first current setter includes a D/A conversion circuit.

34. (ORIGINAL) The device of claim 26, wherein the second current setter includes a D/A conversion circuit.

35. (ORIGINAL) The device of claim 26, wherein the third current setter includes a D/A conversion circuit.

36. (CANCELLED)

37. (ORIGINAL) A control method of a laser power control device for use in an optical recording and/or reproducing apparatus that records data on and/or reproduces data from an optical recording medium by using a laser diode, the method comprising:

receiving light radiated from the laser diode and outputting a current;

current-to-voltage converting of the current output by the receiving and outputting the voltage;

peak-holding of the voltage and outputting a peak-held voltage when pits are formed, and outputting the voltage without peak-holding when a space between pits of the optical recording medium is formed;

first sampling-and-holding of an output by the peak-holding, and outputting a voltage

corresponding to peak power;

second sampling-and-holding of an output of the peak-holding, and outputting a voltage corresponding to elimination power;

setting a peak current that flows into the laser diode;

setting an elimination current that flows into the laser diode;

setting a bias current that flows into the laser diode; and

calculating setting values of the peak current setting, the elimination current setting, and the bias current setting, based on the voltage corresponding to the peak power and the voltage corresponding to the elimination power.

38. (ORIGINAL) A control method of a laser power control device for use in an optical recording and/or reproducing apparatus that records data on and/or reproduces data from an optical recording medium by using a laser diode, the method comprising:

receiving light radiated from the laser diode and outputting a current;

converting the current into a voltage and outputting the voltage;

peak-holding the voltage and outputting the peak-held voltage when pits are formed, and outputting the voltage without peak-holding when a space between pits of the optical recording medium is formed;

first sampling-and-holding the output of the peak-holding, and outputting a voltage corresponding to a peak power;

second sampling and holding the output of the peak-holding, and outputting a voltage corresponding to an elimination power;

setting a peak power reference voltage;

setting an elimination power reference voltage;

first error amplifying by comparing the output voltage of the first sampling-and-holding with the peak power reference voltage, amplifying an error thereof, and driving a current source used by the laser diode to generate peak power;

second error amplifying by comparing the output voltage of the second sampling-and-holding with the elimination power reference voltage, amplifying an error thereof, and driving a current source used by the laser diode to generate elimination power; and

calculating by outputting a setting value that controls a current source used by the laser diode to generate bias power, based on outputs of the first error amplifier and the second error amplifier.

39. (ORIGINAL) A control method of a laser power control device for use in an optical recording and/or reproducing apparatus that records data onto an optical recording medium by using a laser diode that operates according to a single pulse method or a pulse train method, based on type of the optical recording medium, the method comprising:

receiving a light radiated from the laser diode and outputting a current;

converting the current into a voltage and outputting the voltage;

peak-holding the voltage when pits are formed and outputting the peak-held voltage, and outputting the voltage when a space between pits of the optical recording medium is formed;

selectively outputting one of an output of the converting and an output by the peak-holding means, based on the type of the optical recording medium;

first sampling and holding the output of the selective outputting, and outputting a first voltage;

second sampling and holding the output of the selective outputting, and for outputting a second voltage;

setting a first current that flows into the laser diode;

setting a second current that flows into the laser diode;

setting a third current that flows into the laser diode; and

calculating setting values of the first current, the second current, and the third current, based on the first voltage and the second voltage.